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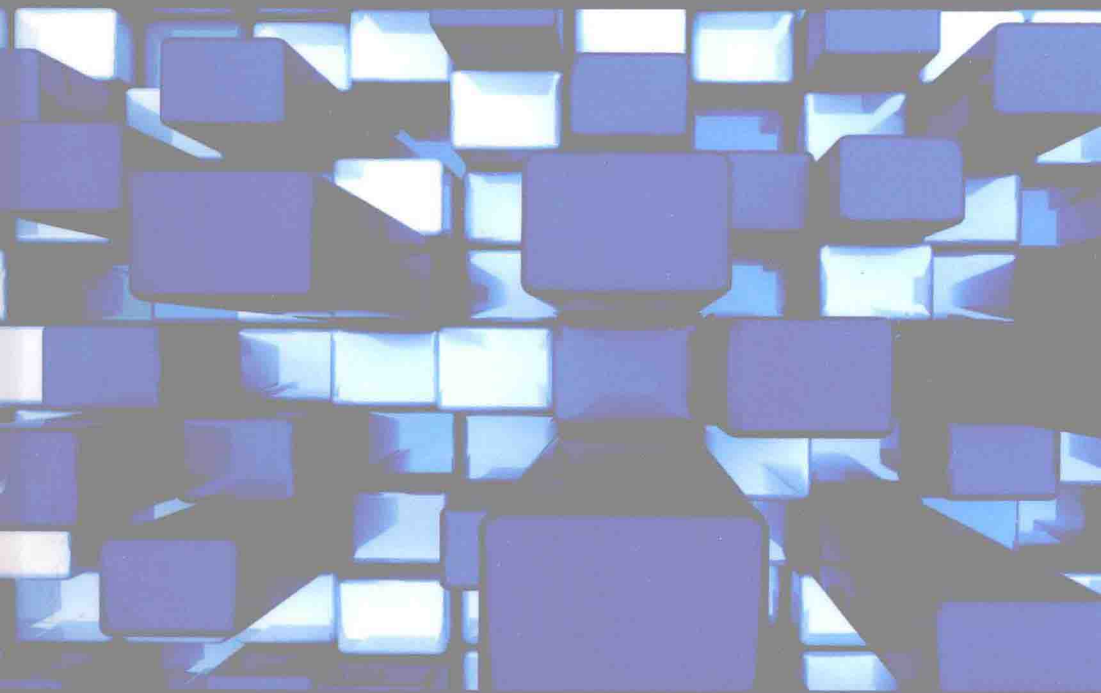
Competitive Quality and Innovations

Pierre Maillard



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Competitive Quality and Innovation

Preface

This book is aimed at two categories of readers.

The first category of readers is made up of directors, innovation project managers in companies with permanent Research and Development departments, project team members, project promoters undertaking an innovative approach which will form the basis of a new company, public stakeholders responsible for promoting innovation, anyone wishing to understand the basics of using quality to achieve success in innovative approaches and so on.

These readers should consult Chapters 1, 2 and 13, and the first and second sections of Chapters 3–11. They can easily skip Chapter 12, which is specifically aimed at the second group of readers.

The objective, as far as these readers are concerned, is to help them to understand the power of a quality approach which is integrated into innovation processes so that their development is able to draw from all possible energy sources, thus ensuring their success.

The second category of readers consists of directors of quality departments, members of quality departments who

assist project managers, Master's degree students specializing in quality management, consultants specializing in quality who work in cooperation with project promoters and so on.

These readers can read this book in its entirety and, for the more technical aspects, refer to the works cited in the bibliography.

The objective here is to help them to grasp the concepts which are at the heart of every quality approach integrated into an innovative process, and to offer guidelines for actions to pursue when carrying out such approaches, showing the link between the fundamental aspects of each quality production approach in a process of creating added value.

I would like to thank all the companies with which I cooperated in their innovative approaches, allowing me to draw from their experiences in order to write this book.

The areas where innovations are developed are obviously highly protected. A high level of confidentiality must be respected. It is for this reason that no concrete or very precise examples are given to illustrate the methodological developments which are discussed. This is also why the companies which rely on quality to optimize their chances of success in innovative approaches do not wish to be identified.

Many of these companies have hesitated for some time before introducing a true quality approach within their departments responsible for promoting the creation and development of innovations. Their experiences in relation to quality approaches integrated into production processes

suggest that the restrictive procedures inherent to such approaches tend to be rejected by those stakeholders concerned and encroach on the freedom necessary to foster innovation.

Companies felt that innovating means taking risks, while a quality approach is designed to avoid such risks; innovating means focusing on an uncertain future, looking out for all sources of information which could provide added value, while a quality approach encourages us to look back in order to guide decision-making; innovating means taking an action that could not be reproduced, while a quality approach is designed to identically reproduce a predefined process.

All these views, while perfectly understandable, are clearly opposed to a quality approach in the innovation process.

These companies were aware of the fact that innovating in an ever more complex environment was becoming risky, that a continually growing number of demands as well as the behavior of socioeconomic stakeholders needed to be taken into account, and that the action of only one of these stakeholders could lead to the failure of an innovation.

"Incubators" were the first to ask us for advice on how to use quality as a means to optimize exchanges with these various stakeholders, without weakening the creative thrust of the teams responsible for the development of innovations. Companies operating in the health sector quickly followed.

Then, the large companies with "research and development" departments also started to move in this direction. Directors of these departments did not want the

field of quality services to encroach onto their own territory. A complete reconfiguration of the field of action of "quality specialists" was needed for them to be accepted within these structures.

Today, these companies could not do without their "creative quality specialists", rather than the "regulatory affairs managers", in order to optimize the chances of success for their innovative approaches.

Pierre MAILLARD
December 2014

Introduction

Global economic growth is plateauing because overall supply is growing faster than demand. Global growth is being led by those countries whose economic development is recent and whose driving force is a supply which impacts exports by manipulating prices. This leads to a slower creation of internal wealth which is concentrated in a small percentage of the population. Therefore, the overall internal demand evolves more slowly than the supply, which is focused on high-end services usually exported toward the so-called "industrialized" countries.

These industrialized countries have been invaded by a lost-cost supply responding to a demand from a large population consuming a continually growing quantity of products and services.

All industrialized countries are making a special effort to revive their economic activity through innovation. They are, therefore, attempting to create new value which differentiates them from the production driven by the strengths generally present in emerging countries. They use innovation to find answers to the problems in society, and to benefit as quickly as possible from the scientific research which represents a key reserve of competitive growth.

Innovation is therefore at the heart of our civilization's economic and social concerns. All our hopes for finding solutions to our problems or for satisfying our ambitions lie in innovation.

The main strengths of emerging markets are the following: a significant potential market for traditional products and services, low labor costs, a highly attractive location for investors and strong development potential for companies in industrialized countries. These companies are happy to quickly transfer their expertise for power: gaining access to these markets, producing locally to maximize profit margins and rapidly reaching a global size which is comparable to that of their main competitors.

The economic assets of industrialized countries are their culture, their ability to capitalize on extensive expertise, a significant financial platform for investing in innovation, and higher purchasing power that opens markets not only to traditional products and services which can be made in emerging countries but also to innovative products which they produce themselves. These markets can serve as tests to evaluate the chances of economic success for a given innovation. They can promote the emergence of an attractive image for innovative products which will then be used, through fashion trends, to access markets in emerging countries more quickly by initially positioning them in high-end sectors and gradually allowing them access to sectors with greater numbers of customers, thus justifying the construction of local production facilities.

The fundamental problems in our society are centered on the protection of the environment, energy saving and finding better uses of renewable energy, recycling raw materials, managing migratory flows caused by socioeconomic inequality and the performance of information and transport methods, the growth of the human population and the aging of this population.

For example, without therapeutic innovation, the lifespan of human beings would not have been lengthened to such an extent. Without technological innovation, modes of transport would not be so reliable, quick and comfortable. Without technological innovation, the number and diversity of products would not have reached their current level, and so on.

Innovation accelerates change and innovation is needed to control or make use of this acceleration.

Nevertheless, paradoxically, innovation can cause instability, and the consumer becomes used to it or even expects it. They are increasingly less attracted by innovation, and this innovation must be incorporated into systems that are increasingly more complex.

Consequently, the risk of failure becomes increasingly great.

This new economic dynamic highlights the importance of introducing quality approaches into innovation processes to increase the chances of success for companies wanting to develop through innovation.

However, researchers and creators fear that these approaches may further reinforce the restrictions which limit their freedom.

The tests which we carried out in various companies show that if we are not trying to reproduce quality approaches introduced into mass production processes, and if we design specific approaches that guide and stimulate research or creativity, then we can then considerably increase the chances of these innovations succeeding.

Competitiveness clusters, which in France are catalysts for innovation, should be the main promoters of this new use

of quality to increase the chances of success for projects they support.

Unfortunately, it can be noted that currently the tools of quality approaches which ensure the success of innovations are not central to the concerns and focus of these competitiveness clusters. The directors and stakeholders of these clusters simply see the "normative technocracy" of quality as too often restricted by the main sources of information which are today made up of regulatory and certification bodies.

There are other ways of using quality to ensure companies' development and the success of their innovations, and we deemed it necessary to support the dissemination of these other quality practices.

This is the goal of this book. It presents the main aspects which characterize these new quality practices in innovative approaches.

The contributions of quality mainly focus on the following objectives:

– to best ensure that an innovation:

- will create and strengthen the desired links between the company and the sectors of the market targeted;

- will create the purchasing value expected of products and services which integrate the innovation by stimulating certain perceptions that clients have of these products and services;

- will provide the resources that internal and external investors and producers of products or services will require in order to produce them;

- will comply with the regulatory and security demands of clients and institutions of countries in which these market sectors are located.

We will look in more detail below at the concept of "purchasing value". This can be expressed as a percentage of purchasing power of a market sector which is dedicated to purchasing products and services which promote innovation.

The role of quality is therefore fundamental in the implementation of company policies aimed at using innovation to increase competitiveness.

This role is necessary to give confidence to those financing innovation and decision makers.

The management of quality integrated into the delivery of innovative projects focuses on two competitiveness factors: controlling risks of failure caused by breaking with previous production and consumption practices, and optimizing the access to markets created by innovation.

Every project designed to introduce an innovation to a product or service brings with it a number of uncertainties which could entail various risks of failure. In order to accept a commitment of significant resources in this type of project, it is necessary to include in their management an effective regulation system which is able to identify these risks as soon as possible and avoid them having an impact on the economy of the project, while taking full advantage of the creative potential of the project team to attract the markets. This is the natural role of a quality system integrated into an innovation process. It is a case of finding and maintaining this "dynamic equilibrium" between the best possible use of value creation opportunities and controlling risks of failure.

In this book, we will greatly elaborate on the specific concept of "dynamic equilibrium" integrated into innovation processes.

In order for this very specific type of quality system to be effective, it must incorporate a number of specific characteristics which are detailed later.

It can be noted that the efforts made by most industrialized countries to promote innovation mainly consist of creating public funds designed to provide financial assistance to all innovative project promoters; creating structures designed to pool the skills necessary for fostering innovation, especially on the level of small and medium enterprises (competitiveness clusters, incubators, etc.); and encouraging research centers to target the development of their results toward technological innovation (development of transfer centers).

The public policies are mainly focused on "technological" innovation.

But technological innovation.

Technological innovation is not an end in itself in order to build the economy of a developing country. It is simply an essential element in part of the wider process of developing technological innovation which is able to respond to a significant and resolvable need of a market which it has helped to create.

It is therefore necessary for public policies to work alongside innovations in services, and the implementation of specific quality approaches in innovative projects, which are essential to increase the innovations' chances of success both in economic and social terms.

Nowadays, we often hear that it is easier to innovate in products than in services, while the non-physical nature of services should instead make them more open to innovation. This observation is mainly due to the essential role of man in the production of services, and the difficulties in breaking with individual and collective behavior and attitudes.

The non-physical nature of these components in the production of innovations is also one of the main causes for the low level of interest shown by policies designed to create growth through innovation.

It is difficult to communicate to economic authorities the importance of services and quality approaches integrated into innovation production systems in order to ensure the creation of value leading to greater and more sustainable profits.

Nevertheless, all recent studies show that the importance and the duration of an innovation's social and economic impact mainly depends on these two components of its production.

The complexity of the situations in which innovations are developed today, the current coverage of most of the markets' fundamental requirements with existing products, the rise of consumerism leading to increasingly more demanding clients, and the role of the media in creating fashions, with images of innovative products to create new needs and which are the basis of returns on investment, are all factors which justify the key role of services and quality approaches in the success of technological innovations.

It is already the case, but will be even more so in the future, that the product at the vanguard of innovation will only be used to sell services, and the recognition by the market of the quality of the innovation will be the main factor in ensuring returns on investment.

Policies, mainly focused on technological innovation, risk inciting significant investment which, in the medium term, will not produce the hoped-for effects for the revival of developed countries' economies.

In order to change these attitudes, it is necessary to provide policy-makers and innovation producers with the means to better understand the way in which quality approaches integrated into innovative projects and services associated with innovative products enhance such innovations and increase their chances of success. It is also necessary to help them to take on and use these key components in producing value in the current social and economic context.

This is the aim of the conceptual and methodological accounts given in this book.

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